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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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10/517,358

01/19/2006

Orestes J. Varonis

TIMK 8394W1

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1688 7590 05/28/2008
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EXAMINER

DAVIS, OCTAVIA L

ART UNIT

PAPER NUMBER

2855

MAIL DATE

DELIVERY MODE

05/28/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|--|--|
| Office Action Summary | Application No. 10/517,358 | Applicant(s) VARONIS, ORESTES J. | |
| | Examiner OCTAVIA DAVIS | Art Unit 2855 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 March 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-19 is/are allowed.
- 6) ☒ Claim(s) 20-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 20, 28 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishibe et al (5,062,062) in view of Garshelis (5,708,216).

Regarding claims 20, 28 and 29, Nishibe et al disclose a torque detecting apparatus comprising a shaft 10, a bearing 500 attached to the shaft and including an inner race 530, an outer race 510 and rolling elements 520 disposed between the inner and outer races, a sensor 12 and an electrical circuit 32 that receives an output of the sensor (See Col. 20, lines 44 – 48 and Col. 40, lines 8 – 13) but does not disclose that the magnetoelastic ring is press fit onto the inner race and the sensor being a Hall effect and magnetoresistive sensor. However, Garshelis discloses a magnetoelastic torque transducer comprising a magnetostrictive sensor taking the form of a ring 4 that includes an inner surface 22 (See Col. 8, lines 10 - 15) and that is press fit or shrink fit onto a shaft 8 at a convenient location along an axis of the shaft which is within the torsionally stressed region of the shaft (See Col. 8, lines 7 – 15 and Col. 20, lines 17 – 24) and a magnetic sensor that is a Hall and a magnetoresistive sensor (See Col. 11, lines 8 - 15).

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Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Nishibe et al according to the teachings of Garshelis for the purpose of, advantageously providing a magnetoelastic torque transducer which provides a single output signal conditioning easily separable shaft torque and shaft speed information, enabling power to be determined from the transducer (See Garshelis, Col. 5, lines 8 - 13).

Regarding claims 21 and 22, in Nishibe et al, the inner race 530 includes a taper portion 532 (See Col. 36, lines 30 - 31).

Regarding claims 23 - 26, in Nishibe et al, the sensor comprises an excitation coil 16 and a sensing coil 20 that are packaged into a single unit 600 mounted to and within the outer race 510 and a holder ring 610, 640 (See Col. 20, lines 21 - 27 and Col. 36, lines 55 - 67, See Fig. 35).

Regarding claim 27, in Nishibe et al, a second excitation coil 16 and a second sensing coil 20 are provided (See Col. 40, lines 3 - 13, See Fig. 36B).

Allowable Subject Matter

3. Claims 1 - 19 are allowed.

Response to Arguments

4. Applicant's arguments with respect to claims have been considered but are moot in view of the new grounds of rejection.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Jorgensen et al (5,115,685) disclose torque meter.

Fish (5,146,790) discloses a torque sensor.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Octavia Davis whose telephone number is 571-272-2176. The examiner can normally be reached on Mon through Thurs from 9 to 5. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz, can be reached on 571-727-2180. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (eBC) at 866-217-9197 (toll-free).

/Edward Lefkowitz/

Supervisory Patent Examiner, Art Unit 2855

OD/2855

5/22/08